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Adolescents Amount of Sleep in Relation to Emotional and Behavioral Regulation

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requirements for the Master of Science Degree in
Counselor Education at
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Winona State University
College of Education
Counselor Education Department

CERTIFICATE OF APPROVAL

CAPSTONE PROJECT

Adolescents Amount of Sleep in Relation to Emotional and Behavioral Regulation

This is to certify that the Capstone Project of
Stephanie Emanuel
Has been approved by the faculty advisor and the CE 695 – Capstone Project
Course Instructor in partial fulfillment of the requirements for the
Master of Science Degree in
Counselor Education

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Abstract

The purpose of this capstone project is to understand the relation between the amount of sleep adolescents get in connection to emotional and behavioral control and how to improve adolescent sleep. Research is showing the amount of sleep youth get affects their behavioral and emotional health in various capacities. The concern for students coming to school with minimal hours of sleep and struggling with self-regulation skills has become an epidemic. Mental health professionals can link information given to developmental theories related to sleep deprivation and self-regulation. They could further their research through intervention, by determining ways to improve the amount of sleep adolescents obtain on a nightly basis. This response could improve the well-being of students and their academic success along with enhancing and possibly diminishing the existence of sleep deprivation amongst adolescents.

Keywords: adolescents, sleep deprivation, emotional, behavioral

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Introduction

Until recently, sleep deprivation has been neglected by social scientists; however, it is known that sleep deprivation can have severe implications on a youth's life. For example, sleep deprivation reduces the functioning of emotional and behavioral control. Sleep is not merely resting, but an active process where the brain works similar to moments of wake periods. The relation between sleep problems, emotional, and behavioral control is enforced by the adverse effect of sleep loss. The adverse impact most likely contributes to the loss of control over emotions and behaviors (Meldrum, Barnes, & Hay, 2013).

The amount of sleep an adolescent obtains and the correlation between mood and behavior have not been studied as much as how it affects adults, however according to Asarnow, McGlinchey & Harvey (2014), more than a quarter of teenagers go to sleep later than 12:00 a.m. during the school year. Adolescents often experience inadequate sleep throughout the school year due to several factors including, early school start times, hormonal shifts, demanding after-school schedules, stimulating environmental factors, light exposure, less parental control over bedtimes, and sleep disorders (National Adolescent and Young Adult Health Information Center, 2014). Insufficient sleep for adolescents, according to Asarnow, McGlinchey & Harvey (2014), can be defined as less than eight hours of sleep at night. Adolescents who get six hours or less have increased risks of health problems, social problems, psychological problems, poor grades, and drug usage. Boys who get less sleep quality have aggressive behavior as well as internalizing problem behavior, yet girls with less sleep have an increase in mood disorders

related to anxiousness and depression (Asarnow, McGlinchey & Harvey, 2014). Trends related to adolescent sleep have impacts on youth behavior and emotional regulation. One trend noticed is that sleep time declines across the adolescent span. Another noticeable trend was later bedtimes amongst high school students and rising times earlier. Lastly, there are variations between weeknight and weekend sleep schedules (Carskadon, 1990). Overall, evaluating the amount of sleep adolescents get and the outcomes on emotional and behavioral functioning is vital because of the impact sleep has on everyday functioning. Sleep has significant implications for emotional and behavioral control amongst youth, especially as they are developing through pubertal years.

Review of Literature

Needs of Adolescents Sleep

On average, sleep takes up one-third of our time and offers the central nervous system an opportunity for recovery and revitalization. Sleep is more than merely resting but rather dropping into a state of relative loss of awareness and responsiveness to the external world. It involves using different parts of the brain and changing patterns within the mind (Dahl, 1999; Meldrum, Barnes, & Hay). Even though sleep requirements are different amongst everyone, sleep is essential for healthy development. Sleep is essential to the processing of information, while the brain uses periods of rest to reinforce learning and boost memory (Meldrum, Barnes, & Hay).

Sleep requires a period of relative unresponsiveness; therefore, it is naturally restricted to safe places and times. Minimal amounts of sleep amongst youth is alarming because rest is necessary to support cognitive and emotional functioning. Lack of sleep amongst adolescents is a distinct problem that has severe emotional and behavioral outcomes for youth (Asarnow,

McGlinchey & Harvey). Sleep is essential for adolescents, yet there are important aspects of rest including, steadiness, timing, and adhering different stages of sleep that are necessary for the recovery process to occur. Studies show not only is it important for youth to obtain eight to ten hours of sleep, but it is also essential youth are not awakened frequently otherwise the following day they will report tiredness, fatigue, and emotional changes comparable to having obtained insufficient amounts of sleep. In appendix A Nyack Hospital states adolescents need an average of 9 hours of sleep each night (Sleep and Teens, n.d.). Schools surveyed in research done by Dahl and Lewin (2002) indicated that falling asleep in class has become a widespread behavior in many schools. Not only are students sleepy, but tired. Tiredness is defined as feeling fatigue that makes it difficult to motivate or initiate certain types of behavior, particularly those actions associated with long-term goals or negative consequences (Dahl & Lewin, 2002).

Implications of Lack of Sleep

According to the National Adolescent and Young Adult Health Information Center (2014) predictors of inadequate sleep include physiological, behavioral, sociocultural, and environmental changes. The US Centers for Disease Control Prevention has deemed insufficient sleep a public health epidemic, yet sleep deprivation is higher among adolescents than any other group (National Adolescent and Young Adult Health Information Center, 2014). Inadequate sleep has several negative impacts such as increased mental health, declining medical health, behavioral, and emotional concerns. Sleep also has implications on youth academic and learning performance. Some studies reveal adverse effects of sleep deprivation on social, emotional, and behavioral development. With much still to learn about the neurological processes involved in sleep, behavioral scientists have increased attention to a strong pattern that many individuals do not get enough sleep (Meldrum, Barnes, & Hay). Blake, et al (2017) reported about 30% of

adolescents suffer from a sleep disorder and is the most prevalent disorder among adolescents.

Due to the lack of sleep adolescents get puts them at risk for cognitive-emotional hyperarousal, physiological development, psychiatric disorders, and emotional and behavioral problems.

There is a strong connection between sleep disturbance and internalizing problems in adolescence. Recent evidence indicates that sleep problems, mainly restlessness in bed start the development of anxiety and depression in adolescence. In summary, sleep deprivation has an impact on adolescent's mental health, declining medical health, behavioral, social and emotional implications and development, and academic and learning difficulties (Blake, Sheeber, Youssef, Raniti, & Allen, 2017).

Brain maturation is occurring throughout adolescent development and sleep is essential during this period. Adolescents are faced with biological and psychosocial changes in sleep and circadian rhythms, also known as the biological clock, which causes sleep changes. Several adolescents frequently obtain insufficient sleep which significantly influences adverse effects on control of emotions and behaviors. Feelings and behaviors are critical in the development of social and academic competence and psychiatric disorders (Dahl, & Lewin). Cain, Gradisar, & Moseley (2011) state adolescents around the world are getting less sleep per night, therefore they tend to catch up on their sleep on the weekends by sleeping in later. However, this pattern creates an unhealthy sleep pattern for youth because it makes it more difficult for them to fall asleep on school nights. Adolescents are experiencing consequences due to unhealthy sleep cycles and insufficient amounts of sleep which include daytime sleepiness, inability to concentrate, decreased academic performance, impaired working memory, behavioral problems of aggression, the possibility of school violence, and falling asleep in class, while working, or driving (Cain, Gradisar, & Moseley, 2011).

Cain, Gradisar, and Moseley (2011) and Carskadon (1990) assert that behaviorally, adolescents have a decrease in academic performance and a higher risk to abuse drugs to improve alertness. Adolescents will often self-medicate with caffeine or other harmful stimulants, therefore unhealthy sleep patterns and consequences due to insufficient sleep puts adolescents at a greater risk of drug abuse to counteract sleepiness. They will use caffeine or other strong stimulants along with other drugs to reduce sleepiness, however this increases their irritability, which interferes with their relationships with others. Lack of sleep for adolescents also has long term effects such as increased risk of developing comorbid adult-onset anxiety disorders and a possibility of a decreased successful transition from high school to post-secondary education or employment (Cain, Gradisar, & Moseley; Carskadon, 1990). Insufficient sleep and excessive sleep lost amongst adolescents increases their vulnerability to some unfortunate outcomes. The less sleep youth get the more increased challenges they are faced with throughout their life, therefore getting the proper amount of sleep is important for adolescents.

Even though the behavior is the consequence of insufficient sleep, adolescent's moods can also be affected by the amount of sleep. Mood changes can interfere with a youth's ability to cope with daily stresses along with impairing relationships with peers and adults (Carskadon). The recovering function of sleep is essential for optimal physical and mental function and survival. Youth report less control and increased embarrassment over their moods and behaviors when sleep patterns are deficient. Adolescents who obtain six hours of sleep each school night have a significant increase in depressive mood. Furthermore, lack of sleep affects the behavioral level which involves a fundamental loss of awareness and responsiveness to the external environment. Focusing on long-term goals or consequences while regulating emotional reactions

in social situations is an area where adolescents are struggling to navigate in their day-to-day lives, and sleep deprivation decreases youth ability be happy, healthy, and productive. In summary, chronic sleep deprivation and unhealthy sleep patterns become established during adolescence and may confer a higher risk for the development of sleep, mood, and behavioral problems (Dahl & Lewin).

Adolescents report regular insufficient sleep and excessive daytime sleepiness. According to Asarnow, McGlinchey, and Harvey (2014), more than forty-five percent of youth in grades sixth through twelfth report sleeping less than the recommended amount on school nights. More than a quarter of youth report difficulty staying awake during school due to insufficient sleep. Sleep is a prime factor in supporting optimal cognitive and emotional functioning. Teens report sleep problems which predict worse mental health. The more sleep youth get, the better their performance across several domains such as academics, emotional, behavioral, mental health, and physical health (Asarnow, McGlinchey, & Harvey).

Barriers to Getting Enough Sleep

An adolescent's sleep pattern can be affected by parental monitoring, as parental control over bedtime lessens during adolescence, social interests that encourage remaining awake later into the evening, as social media increases, academic pressures, circadian rhythms, curfews, school schedules, academic demands, part-time employment, extracurricular activities, medications, and use of electronic devices, which delay sleep onset and reduces sleep duration. In addition to these effects on sleep, adolescent sleep patterns are affected by biological onset of puberty, physical and hormonal changes (Carskadon). According to appendix B parents report teens lack sleep due to not getting off electronics, irregular sleep schedules because of homework, worrying about school, worrying about social life, and health and medication

(Mostafavi, n.d.). Studies have shown adolescent sleep patterns are decreased in the total amount of sleep, have a delayed sleeping time, and have an increased level of daytime sleepiness. Laboratory tests have shown that adolescents need more sleep than elementary students, especially during early adolescence. Several factors are affecting healthy sleep habits amongst youth and research has shown that many adolescents do not get enough sleep. The amount of sleep an adolescent obtains each night influences many aspects in a teen's life, including mood and behavior problems. Excessive sleepiness amongst adolescents is potentially a severe problem, yet the problem has been unrecognized because tiredness amongst adolescents appears to be normal (Carskadon).

Adolescents are faced with several factors affecting their sleep pattern development. Environmental and physical factors have a significant role on adolescents' sleep pattern. Additionally, Carskadon (1990) states many adolescents do not get the proper amount of sleep. Between the demands of academic work, social obligations, and work requirements adolescents are staying up later and later. If a student's sleep pattern is decreased routinely, then over time adolescents are sleepier. Not only do shorter amounts of sleep play a significant role in sleep patterns of youth, but puberty produces daytime sleepiness (Carskadon). In addition to these environmental and physical factors, there are extensive psychosocial influences that interfere with adolescent sleep. These impacts include a desire to stay up late at night to engage in social activities, self-determined bedtimes, and access to stimulating and arousing activities. Youth are staying up later while accessing cable television channels, phones, internet, and video games. Due to the extensive psychosocial influences interfering with an adolescent's sleep many are coming to school tired and sleepy. This, in turn, is leading to negative academic, social, and emotional consequences for youth (Dahl & Lewin).

Interventions to Help Increase Adolescent Sleep

Research has shown youth who have a set-bedtime, a later school start time, and spend less time per day on extracurricular commitments get more sleep. However, each culture has different views on the nature, purpose, and the importance of sleep (Short, Gradisar, Lack, Wright, Dewald, Wolfson, & Carskadon, 2013). Adolescents who obtain inadequate sleep have poor emotional regulation and are at risk for behavioral issues. Studies consistently show the amount of sleep youth get has an impact on their life. Appendix A provides tips for getting better sleep which include, establishing a bedtime routine, having a cool, dark, and quiet bedroom, not eating, drinking or exercising before bed, and to turn off all electronic devices. It is crucial for parents to be involved and know about their child's sleep. Parents should ban electronics from bedrooms due to the amount of light exposure that disrupts sleep. Moreover, adolescents need to keep a regular sleep schedule because sleeping in later than normal can lead to more tiredness. Along with having a regular sleep schedule, parents should discourage afternoon naps because it is harder to fall asleep at night. Lastly, it is important for adolescents to avoid caffeine, especially after lunchtime. If all other things are considered and adolescents continue to struggle with sleep it is vital to consult a health provider (Sleep and Teens).

Kelman (1999) brings up how schools can have a significant impact on adolescent sleep. Schools have the capacity to educate adolescents on the importance of obtaining adequate sleep. Adolescents need to be educated about what sleep is, how much sleep they need, why they need to sleep, and how the physical and social changes they experience can impede getting enough sleep. An ideal psychoeducational program at school should focus on the importance of good life-long sleep habits, developing a nightly bedtime routine, and getting to bed at the same time each night, including weekends. Guidance lessons can also focus on relaxation techniques

before going to sleep, such as listening to calming music or taking a warm bath. Moreover, other material can focus on things adolescents should avoid before going to bed, such as caffeine or foods that contain caffeine, exercising, or watching violent television programs. Furthermore, lessons can emphasize the relationship between getting enough sleep and feeling well, and the potentially serious outcomes of not getting enough sleep, such as falling asleep while driving or increased mental health issues. Youth need to be informed about the link between extreme moodiness, depression, irritability, fatigue, tiredness, aggressiveness, and violence related to their sleep. The overall program goals should include increased knowledge of how lack of sleep affects all aspects of an adolescent's life and an increased understanding and awareness of how to obtain more sleep. Besides educating adolescents, schools can educate and support parents about adolescent sleep requirements and provide ways to encourage parents to direct their adolescent's bedtimes and curfews, so they get more sleep (Kelman, 1999).

Equally important to educating adolescents and youth is educating schools on later start times for youth. Schools can look at later start times for adolescent students to increase more sleep amongst youth, especially for those participating in extra-curricular activities and part-time employment. This can be accomplished by informing school boards and administrators, parents, teachers, and other school staff about the needs of adolescent sleep, why they do not get adequate sleep, and the potential effects if adolescents do not get enough sleep (Kelman).

As well as educating others about adolescent sleep, Cain, Gradisar, & Moseley (2011) discusses the importance of group cognitive-behavior therapy as it has shown improvement in sleep inactivity, number of awakenings, sleep proficiency, and sleep quality amongst adolescents. Cognitive-behavioral sleep interventions aim to modify the patterns of thinking and behavior that may be underlying an individual's sleep disturbance, such as poor sleep patterns,

irregular sleep-wake schedules, delayed bedtimes, and pre-sleep activity. Sleep problems are overlooked and rarely screen for in general health care settings. Adolescents needing therapy tend to have low motivation, fail to attend sessions, or drop out altogether, therefore those who could benefit from this intervention do not receive or engage in it. Cain, Gradisar, & Moseley (2011) expresses how the school could be considered an alternative environment for sleep intervention. School-based intervention can assist in improving adolescent motivation to change sleep-related behaviors as well as incorporating homework experiments (Cain, Gradisar, & Moseley).

Conclusion

There is a growing recognition that many adolescents obtain insufficient and/or poor-quality sleep, which is increasingly being regarded as an epidemic of sleep deprivation among adolescents. According to the American Academy of Sleep Medicine, the National Sleep Foundation, and the American Center for Disease Control and Prevention have suggested that adolescents optimally require between eight and ten hours of sleep per night. The amount of sleep adolescents get influences the way they perform, feel, think, and learn during the day. Sleep is essential to people of all ages but is especially crucial for development processes in adolescents. According to research studies adolescents perform best with eight to ten hours of sleep. Given this, it is vital in understanding the extent to which deprivations in sleep result in negative consequences and is significant information for those working with youth in a school setting. Since adolescents spend most of their time in school, educational programming could be thought to improve a teenager's sleep pattern through engaging and informing youth, parents, and pediatricians about proper sleep hygiene and the risks of poor sleep habits (Carskadon).

The costs of youth sleep deprivation have not been calculated, yet some steps can be taken to correct the problem. Many of the steps involve policy changes such as a greater awareness of the adolescent sleep issues among those working with youth. Limiting work hours and extracurricular time for adolescents could have implications, yet it is likely to help. Changing school start times and policies could also be beneficial along with scheduling certain types of classes within the school day that might maximize performance when attention and concentration are at their best. The literature revealed how much sleep adolescents require, why adolescents need more sleep, why they do not obtain enough sleep, and interventions to help improve sleep. Adolescents go through physical, emotional, and social changes that affect the amount of sleep they receive. With the information in this paper, there is a need for those working with youth to better understand the effects of inadequate sleep, the link between sleep, behavior, and emotion regulation, and ways to improve adolescent sleep. There is a lack of knowledge on how the effects of a preventive measures can change patterns of sleep and wakefulness during adolescence. Researchers emphasize the significance of evaluating and monitoring bedtime in adolescents and the importance of psychoeducational programs that schools can design and coordinate to assist in addressing ways to improve adolescent sleep along with educating parents, school boards, legislators, administrators, teachers, and other school staff. The impact of adolescents not sleeping long enough has the potential to affect us all (Dahl, & Lewin).

In conclusion, those working with adolescents need to research sleep with adolescents to identify risks related to the safety of adolescents who experience sleep problems and identify how schools, pediatricians, parents, and employers can help adolescents obtain adequate sleep. The importance of sleep for favorable health is undeniable. If adolescents learn to acknowledge

their sleep needs and improve their sleep habits, they may be happier, healthier, and safer, and more productive during their adolescent years. Overall, research has stated that when sleep time is increased, adolescence relationships will improve along with their behavioral and emotional regulation.

Author's Notes

This topic stood out to me because I work with several students that have a difficult time controlling their emotions and behaviors. These students work on coping skills and practice using techniques; however, they continue to have difficulty with self-regulation and behaviors. I wanted to see what research had been conducted and the findings related to lack of sleep in relation to emotional regulation and behaviors. I specifically wanted to learn more about adolescents as they experience several changes and higher demands. Having a psychoeducational program to teach adolescents about the importance of sleep, why they need sleep, and the consequences of the lack of sleep are vital to provide in school for students since they spend most of their time at school. In addition to educating youth, it is important to educate parents, school personnel, and others within the community involved with adolescents.

It is my goal to integrate education about adolescent sleep when I become a licensed school counselor. I see the need to educate students, parents, school personnel, and others working with adolescents about the importance of sleep, consequences of sleep, and beginning a psychoeducational program for students. Furthermore, it is critical for all people working with adolescents to understand and gain knowledge about how to help adolescents increase healthy sleep patterns.

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Appendix A



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Appendix B

